

# **Sortation in Ecommerce Logistics in India: Design Principles for Scalability & Flexibility**

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## **Abstract**

The choice of sorting automation needs to be based on trade-offs on cost economics, reliability and operational challenges. A greater degree of warehouse maturity is required to handle increasing throughputs. While generally the per-unit cost of operation will reduce as warehouses move towards greater degree of mechanization and automation, costs are also dependent on local factors. At the same time, awareness of the tipping point is essential to maintain low cost of operation with the promised level of service. This becomes even more essential for low-margin sectors like ecommerce logistics and low-wages countries like India.

Given this, key questions that we need to answer on Sortation are:

**1. Asset strategy related:**

- a. What is the asset cost-structure and accordingly the right technology for future sort requirements?
- b. How can we modularize the investment to handle peaks & scalability while factoring in practical constraints like land availability in urban areas?

**2. Network design related:**

1. What is the right sort philosophy – sort at source vs. sort at destination vs. hybrid?
2. What factors will govern the choice of sorting centre locations?

The answer to above questions might change from industry to industry. As we scale beyond low-throughput sorters at Flipkart, we have analysed and answered some of these questions to build applicable strategies and business cases.

**Keywords:** Sorting, Network, Technology

## **Biography**

**Sachin Raja** is currently working as Architect in Automation Design department in Flipkart Internet Pvt Ltd and is involved with end-to-end material handling automation projects. Previously he has worked for leading companies like Siemens & Beumer. He has done his MBA through Symbiosis and bachelor studies in Electronics Engineering from Nagpur University.

**Swadesh Srivastava** is currently Director of Automation Design at Flipkart. Prior to Flipkart, he has worked at leading technology companies like Intel, Lam Research and Apple in the US. He is a technology leader with diverse global experience across R&D, Product Development, Design & Operations in different industries such as ecommerce logistics, consumer electronics, semiconductors, high-tech equipment. He has a PhD from University of Minnesota and B.Tech from Indian Institute of Technology. Swadesh is also active in non-profit sector, playing executive & entrepreneurial roles.